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ABSTRACT

A common paradigm in measuring the ability to recognize facial expressions of emotion is to present photographs of facial expressions and to ask subjects to identify the emotion. The Affect Blend Test (ABT) uses this method of assessment and is scored for accuracy on specific affects as well as total accuracy. Another method of measuring affect recognition is the one used in the 20 face-alone items of the Profile of Nonverbal Sensitivity (PONS). Each videotape item, lasting 2 seconds, is paired with a response set of two situation descriptions. Both tests were given to 53 undergraduates to examine measures of emotion recognition ability. The PONS and ABT were first presented with their situation description formats. One week later the affect label formats for both tests were administered. Also in the test battery were included a standardized vocabulary test as a measure of verbal intelligence, a mood scale, and the Mehrabian-Epstein Empathy Scale. Results indicated the existence of specific affect-related recognition skills. The interrelationships among the methods of emotion recognition and the other measures illustrate the connection between construct validity and method variation. (Author/JAC)

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Emotion Recognition Ability: A Multimethod-Multitrait Study

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Emotion Recognition Ability: A Multimethod-Multitrait Study

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Social perception skills are an integration of several processes. The question arises whether there is a specific trait of social sensitivity and if some people are characteristically more perceptive than others. Research difficulties include the problem of devising methods for measuring the determinants of perception and trying to identify and isolate specific skills. The perceiver's sensitivity to nonverbal cues is an interesting factor which has received recent attention. One aspect of nonverbal sensitivity is the ability to recognize facial expressions of emotion. This sensitivity is thought to be distinct from other intellectual skills.

Previous tests have attempted to measure the ability to recognize facial expressions and to identify the traits which correlate with it. A common method of measuring the ability to recognize facial expressions of emotion is to show subjects a picture and ask them to identify the emotion shown by choosing affect labels such as happy or sad. Scoring of these tests often gives a single accuracy score. An unanswered question is whether emotion recognition is a general ability or whether sensitivity is specific to different affects.

The experimental question is how to isolate a single

factor for measuring and how to determine which factors correlate with it. The multimethod-multitrait design, developed by Campbell and Fiske (1959), is an appropriate method for determining the convergent and discriminant validity of tests in a battery.

Our study examined two measures of emotion recognition ability, the Profile of Nonverbal Sensitivity (PONS) (Rosenthal, Hall, DiMatteo, Rogers, Archer, 1979) and the Affect Blend Test (ABT). The test battery contains a total of seven measures, four emotion recognition tests--two alternate forms of both the PONS and ABT, a measure of verbal intelligence, of empathy, and of mood state.

Method

Subjects. The subjects were 53 undergraduate men and women in a general psychology course at the University of San Francisco. Subjects participated in their choice of two testing sessions one week apart for satisfaction of coure requirements. In the data analysis 46 subjects were included; seven were omitted because of missing scores.

Apparatus. The method for measuring emotion recognition ability was varied by using an affect label format and a situation description format for both the Profile of Nonverbal Sensitivity and the Affect Blend Test.

The version of PONS used in this study consisted of the 20 face-alone items of the more extensive test by Rosenthal

and his colleagues. Each item shows videotape segments lasting two seconds of the same actress posing a variety of facial expressions. Facial emotion cues were determined by coding the movement of facial muscles in accordance with the Facial Action Coding System (FACS) devised by Ekman and Friesen (1978).

The ABT consists of 56 color photographs of seven different men and women showing blended affects obtained by requesting the models to move certain muscles in a predetermined way. "Blended Affects" refers to a facial expression which contains cues for more than a single affect, such as fear and anger or happy and surprise.

In the affect labels format for both the PONS and ABT, a stimulus picture was shown and a choice of affect labels presented. The labels used were happy, sad, fear, anger, surprise, and disgust/contempt. In the alternate form a pair of situation descriptions was presented with the same stimulus pictures. The situation format for the PONS and ABT were similar. The situations for the PONS were the test's standard paired responses, for example, admiring nature and helping a customer. For the ABT there were 26 sets of paired responses and 30 sets of four responses. The situations were chosen for their appropriate fit to the stimulus picture. Each set had one situation conveying a blend of two affects, one for each specific affect, and one neutral situation. An affect blend situation, for example, was: hearing her boy-

friend say he wants to break up, arguing with her mother, watching a sad movie, and trying on a new dress.

In addition to these four tests, the affect label versions of PONS and ABT and the situations versions of PONS and ABT, three other trait measures were included in the test battery. A measure of verbal intelligence was obtained by a 25-item vocabulary test; empathy disposition was measured by the Mehrabian-Epstein Empathy scale (Mehrabian and Epstein, 1972), which correlated with the ability to recognize facial expressions in a study by Levenson (1979). Subjects reported their mood on ten scales using a Likert-type scale of one to five, indicating neutral to extreme.

Procedure. The test battery was completed in two sessions one week apart. In the first session the affect label format of the PONS and ABT were administered along with the vocabulary test, the mood checklist, and the Mehrabian-Epstein scale. The following week the subjects were given the situation description formats of both PONS and the ABT.

Accuracy scores on the affect labels for PONS and the ABT were obtained for each affect as well as a total accuracy score. The interrelationship among the two forms of the PONS and ABT and among the other trait measures was obtained by a Pearson Product-Moment Correlation matrix.

Results

Recall that this multimethod design hopes to obtain

significant correlations among the similar measures of emotion recognition ability, the affect label version of the PONS and the ABT and the situation description version of these two tests.

The PONS situations (the usual format) and the PONS affect label format were not significantly correlated. The situation formats of the PONS and ABT showed no significant correlation over the total scores. However, there was a significant positive correlation at the .02 level for anger on the two tests. On the alternate forms of the ABT, total situation scores negatively correlated with the anger label scores at the .001 level. Total ABT situation scores positively correlated with the disgust scores on the label format at the .03 level.

The Mehrabian Epstein Empathy scale did not correlate with any of the other measures, thus indicating that emotion recognition ability may not reflect personality empathy. Verbal intelligence did not correlate with either form of the ABT or with the PONS situation format. There were significant positive correlations between vocabulary and the PONS affect label scores for happy, sad, and total accuracy.

The interrelationship between mood state and affect label formats varied for the two tests. Total scores for PONS affects showed negative correlations with mood scales of disgusted, interested, and annoyed. ABT total affect scores had

a significant positive correlation at the .01 level with the mood scale of fearful. On both PONS and ABT the affect sad negatively correlated with feeling surprised on the mood scale. These correlations suggest that the mood state of the subject at the time of testing for emotion recognition skill should not be overlooked.

Discussion

The results lend support to our hypothesis that there are specific, affect related recognition skills. This is indicated by the significant correlation between the PONS and ABT anger subscales. The lack of correlation among other subscales is not surprising, since after coding the PONS stimuli, items were found to be heavily loaded with the affects happy and anger and had little variation on other affects.

The positive correlation between ABT situations and disgust on the ABT affect format and the negative correlation between total situation scores and the ABT anger label indicates that the ABT situation description scores do have some variance in common with scores from the affect label format of this test. This is not the case for the PONS. The lack of correlation between the PONS formats indicate that the situations are not affect loaded or affect specific. This is due to the way the PONS situations were devised. Each situation is a combination of either positive or negative and either submissive or dominant elements.

The ABT stimuli had greater variation across all affects, and response formats concentrated on the affect content relative to the stimuli. The ABT focuses on the nonverbal cues of emotion and the ability to interpret facial actions as indicators of affect.

The PONS, on the other hand, presumes that doing well on the situation responses indicates nonverbal sensitivity. However, the ability to process the nonverbal stimuli and the ability to do the task are two different constructs. Interpreting the emotion content of a situation description is a more intricate process than choosing a label. The subject's perception of the stimuli may be the same in the alternate conditions, yet selection of a situation and choice of an affect label may involve different intermediary skills other than emotion recognition ability. Being sensitive to nonverbal cues may be unimportant or unrelated to being socially skilled.

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